

Arizona State Retirement System Board



Global Tactical Asset Allocation (GTAA)

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Agenda

- Evolution of ASRS Tactical Asset Allocation (TAA) Program
- ASRS Perspective of GTAA
- ASRS Global Asset Allocation (GTAA) Program - Snapshot
- Program Performance – Past/Present
- Current/Future Program Activities

Evolution of ASRS's Tactical Asset Allocation Program

Pre-2003

- ASRS's Tactical asset allocation (TAA) program was initiated in 1984. 20% of ASRS assets were invested in BGIs static mix portfolio 60% equities / 40% fixed income whose benchmark was 60% S&P 500 Index/40% Lehman Aggregate Index.
- Program modifications occurred in 1991. Program allocation was changed to 100% equities / 0% fixed income; new benchmark was S&P 500 Index + 2%.
- From 1998-1999, ASRS TAA Program allocation was gradually reduced to represent 10% of ASRS assets.
- Program underperformance concerns, the availability of attractive international markets and an interest to better align the program-to-total fund benchmarks resulted in the broadening of the program from a US TAA to a Global TAA strategy toward the end of 2003.

Evolution of ASRS's Tactical Asset Allocation Program

Post-2003

- As the result of a GTAA manager(s) search, the Board approved the hiring of Goldman Sachs and Bridgewater.
- Performance objective: for a given level of tracking error provide incremental long-term alpha relative to the ASRS Total Fund benchmark.
- In early 2007, Goldman Sachs (GS) was terminated due to concerns with organization, investment process, and volatility of returns. IMD project managed the transition of Goldman's \$1.4 billion portfolio to Bridgewater (\$400 million) and BGI Index Funds (\$1 billion).
- In 2007, Bridgewater's investment guidelines were modified to include exposure to commodities in the range of $\pm 10\%$.

ASRS Perspective on GTAA

- Axiom #1 : GTAA provides the ASRS with a systematic framework for making macro-level tactical asset class investment decisions. Though ASRS Total Fund return attribution will be dominated by strategic asset allocation (SAA) policy, the ability to tactically take advantage of asset class anomalies and pricing differentiation is expected to incrementally add value.
- Axiom #2: GTAA is viewed as an “alpha-generator” whose returns should primarily result from portfolio positioning in the economic beta asset classes in which the ASRS invests. Portfolio positions should differ from the SAA weight in each asset class in the same way that active managers within each asset class attempt to enhance the returns of the Fund.
- Axiom 3: GTAA requires a demonstrated skill set in predicting the dispersion of longer-term asset class returns. GTAA managers should add value in both rising and falling markets.

ASRS GTAA Program - Snapshot

- Investment Managers:
 - Bridgewater Associates (active)
 - Inception: December 31, 2003
 - Portfolio: \$2.0 billion
 - Barclays Global Investors (passive)
 - Inception: February 28, 2007
 - Portfolio: \$1.1 billion
- Benchmark:
 - S&P 500 56%, MSCI EAFE 16%, Lehman Aggregate 28%
- Target Percent: 10% \pm 2%
- Asset Class Size:
 - \$3.1 billion, or 10.8% of the Total Fund (as of 9/30/07)

Bridgewater Associates

Portfolio Profile

Portfolio size	\$1,997 million
Expected excess return	3.00%
Expected tracking error (active risk)	3.75%
Expected information ratio	0.80
Portfolio structure	Derivatives – 85.1% BW Equity Fund – 4.4% BW Corporate Bond Fund – 4.9% Physical Securities – 5.6%
Investment process	Fundamental
<p>Bridgewater believes that a deep understanding of the <u>fundamental determinates</u> of each country's interest rates, exchange rates, and equity markets is an essential prerequisite for adding value in global tactical asset allocation. Bridgewater also believes that a <u>systematic process</u> for quantifying this fundamental relationship and converting it into investment decisions is essential.</p>	

Bridgewater Associates

Current Portfolio Positions

Strategy	Deviation from Benchmark (%)
Equity Country Selection:	-1.1
Commodities:	2.9
Currency Selection:	
Japanese Yen	9.6
Canadian Dollar	3.2
Australian Dollar	3.2
UK Pound Sterling	-7.0
Euro	-7.3
Other (7)	-0.9
Total	0.7
Fixed Income Strategy	Contribution to Duration
Long-term Country Selection:	
Japan	1.4
Euroland	-0.6
United States	-1.1
Other (3)	-0.7
Total	-1.1
Short-term Country Selection:	
Japan	0.6
Other (5)	-0.3
Total	0.3

Neutral on global equities, but with a view that US equities will outperform Japanese equities.

Modestly bullish on commodities.

Bullish JPY, CAD, and AUD, while bearish USD and GBP. Views on the Euro are mixed (long vs. GBP and USD, but short vs. JPY).

Bridgewater is less short world interest rates now than they have been over most of the past year. The bond yield position has reduced from significantly short to moderately short, while the short rate exposure has moved from moderately short to slightly long.

Short bonds in the US, Europe, and the UK, while long Japanese bonds. At the short end, Bridgewater is positioned for Japan, US, and Canadian short rates to fall relative to the UK, Europe, and Australia.

Program Performance – Past/Present

Pre - 2003

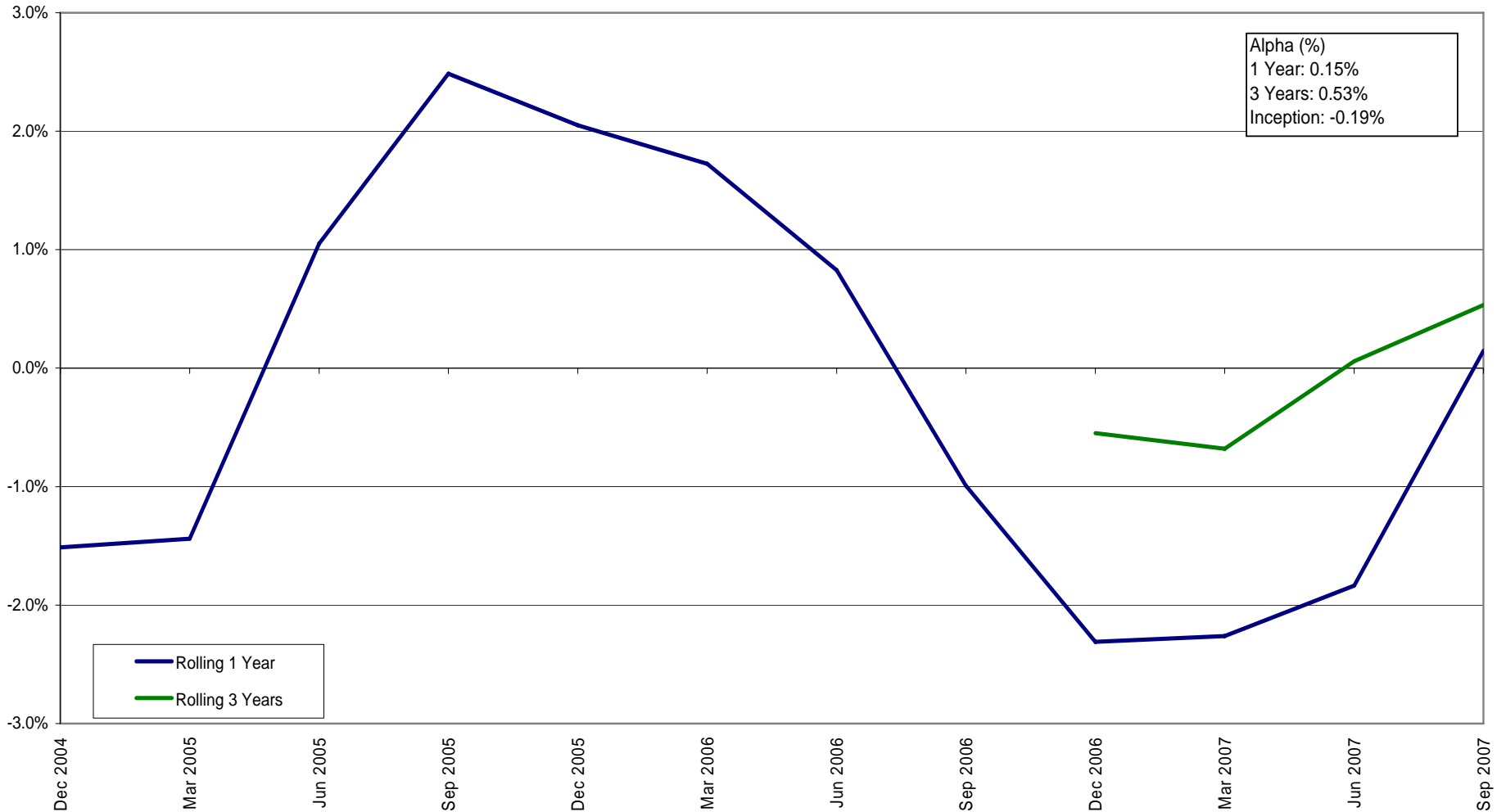
- The TAA Program underperformed the linked benchmark by 52 bps.

Post - 2003

- Bridgewater has added 28 bps since inception. For the one year ended 9/30/2007, performance is 91 bps ahead of the benchmark.
- Goldman Sachs lagged the benchmark by 103 bps when the mandate was terminated in February 2007.
 - Subsequent to termination, it is estimated the portfolio would have significantly lagged the benchmark.

Alpha GTAA Composite

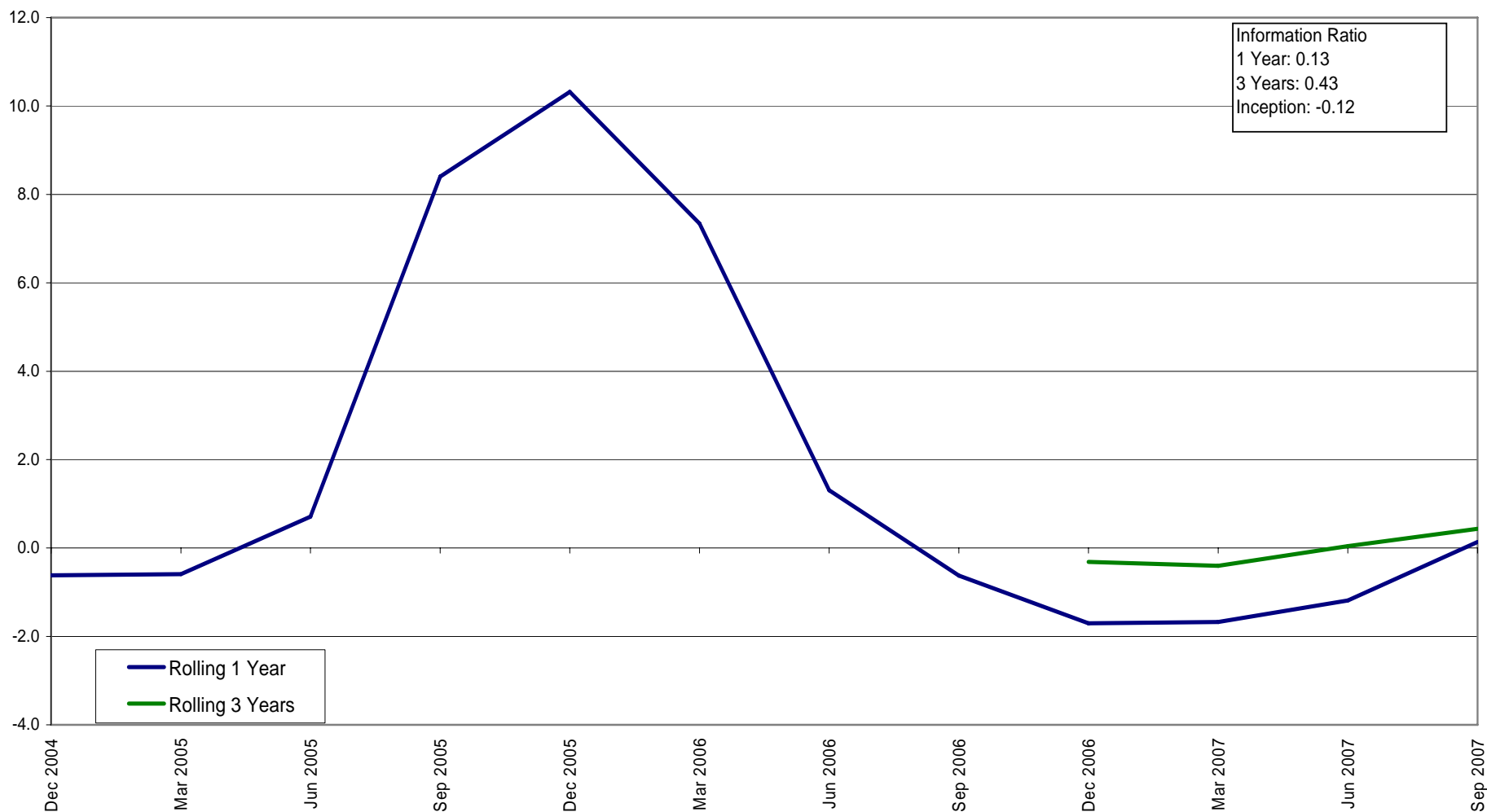
Inception Date December 31, 2003 – Period Ending September 30, 2007



Preliminary

Information Ratio GTAA Composite

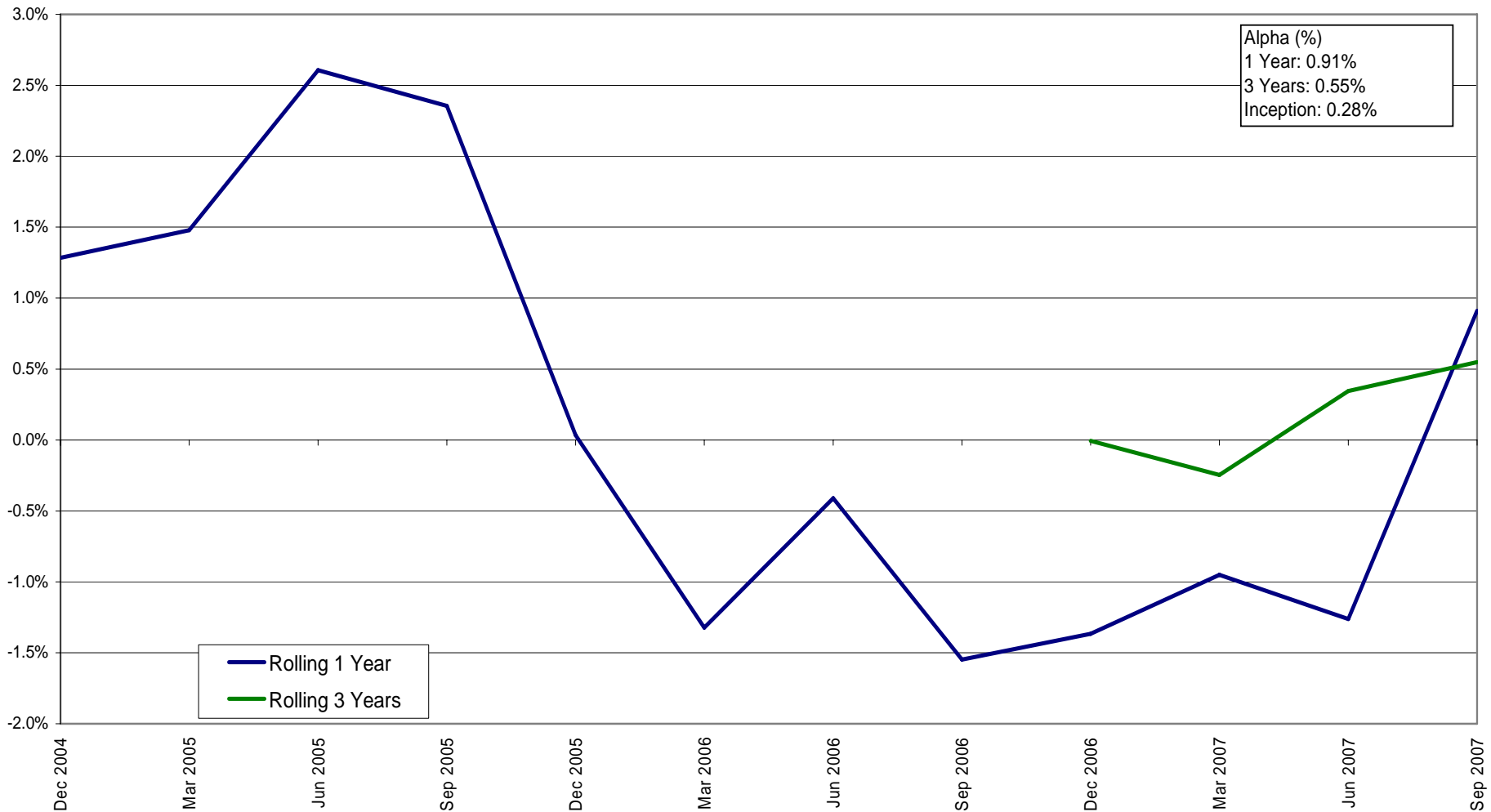
Inception Date December 31, 2003 – Period Ending September 30, 2007



Preliminary

Alpha Bridgewater

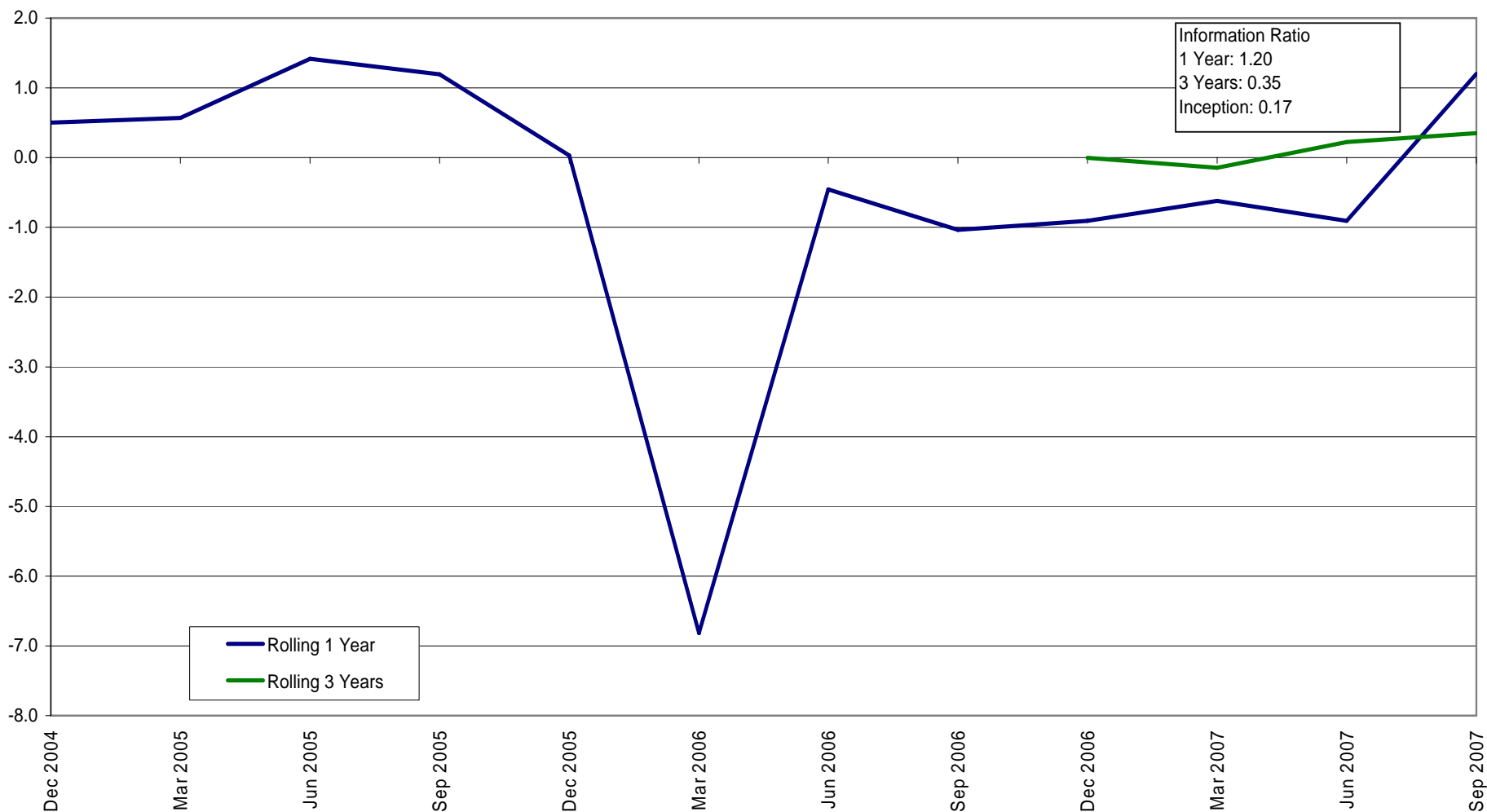
Inception Date December 31, 2003 – Period Ending September 30, 2007



Preliminary

Information Ratio Bridgewater

Inception Date December 31, 2003 – Period Ending September 30, 2007



Preliminary

Bridgewater Associates

Performance Attribution

12 Months Ending September 30, 2007

- **Biggest Winners**

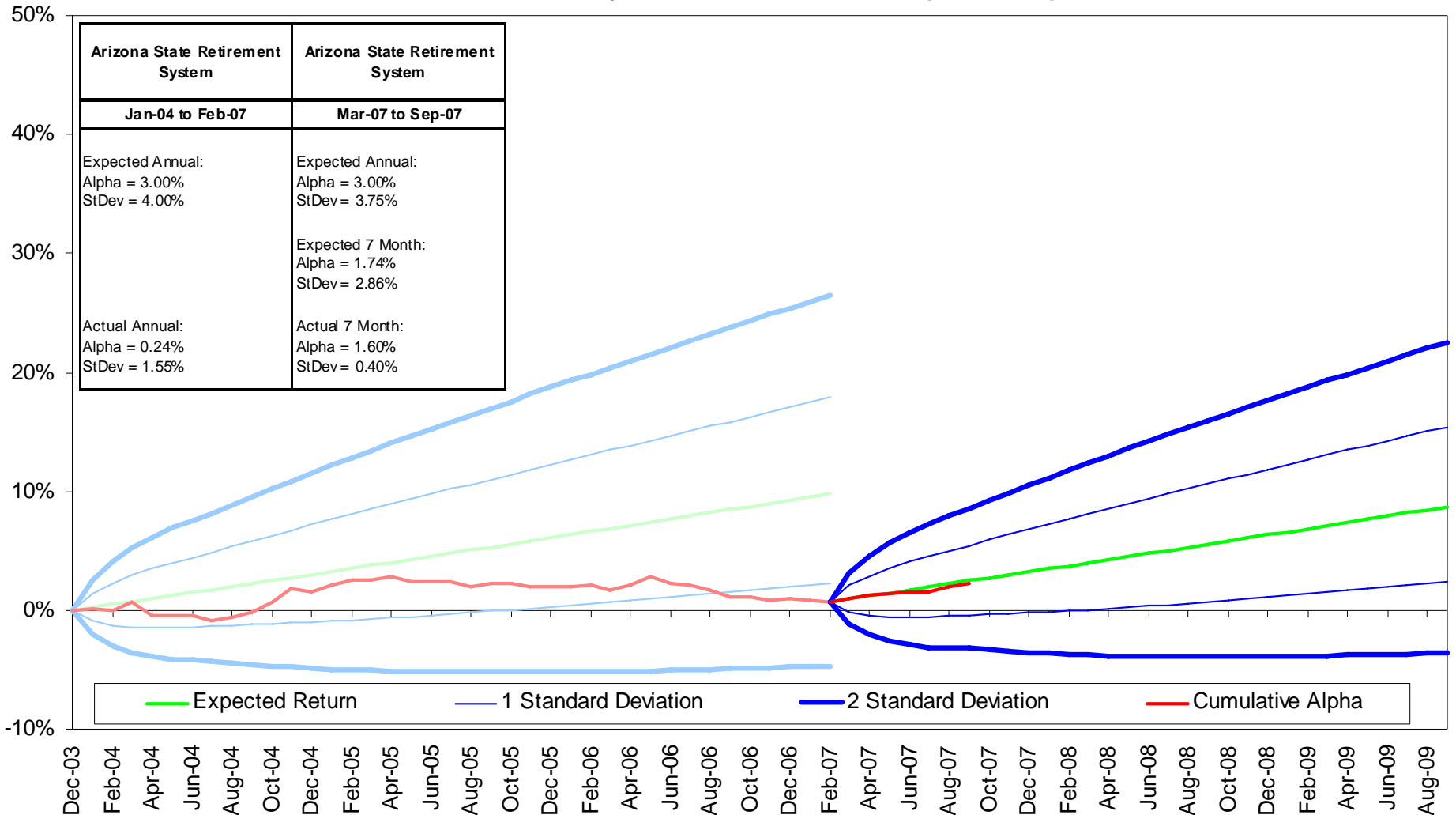
- Outright short positions on Euroland bonds
- Long positions in commodities
- Currency positions:
 - Short the New Zealand dollar
 - Long the Australian dollar relative to the US dollar

- **Biggest Losers**

- Currency Positions:
 - Short the Euro relative to the Japanese Yen
 - Long the Swiss Franc relative to the Euro
- Bearish US Bonds relative to the world
- Short Canadian equities

PERFORMANCE VS. EXPECTATIONS

Arizona State Retirement System Gross Cumulative Alpha vs. Expectations



Note: PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE PERFORMANCE. The chart shown above is based upon the returns of the account or investment referenced, as managed by Bridgewater. Performance is estimated for the periods referenced. Any attribution is based on Bridgewater analysis. Where shown, gross of fees returns will be reduced by the investment advisory fees and any other expenses that may be incurred in the management of the account or investment. PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.

Current/Future Program Activities

- Initial GTAA manager search activities
- The morphing GTAA market profile
- Evaluate and consider changes to Bridgewater strategy; including guideline modifications and new markets